



September 3, 2004

William A. Bonnet  
Vice President  
Government and Community Affairs

PUBLIC UTILITIES  
COMMISSION

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FILED

The Honorable Chairman and Members of  
the Hawaii Public Utilities Commission  
465 South King Street  
Kekuanaoa Building, 1st Floor  
Honolulu, Hawaii 96813

Dear Commissioners:

Subject: Docket No. 03-0371 – Proceeding to Investigate Distributed Generation in Hawaii

Pursuant to Prehearing Order No. 20922, filed April 23, 2004, attached are  
HECO/HELCO/MECO's direct testimony supplemental information requests ("SIRs") to the  
following parties/participants\*:

Consumer Advocate ("CA")  
County of Maui ("Maui")  
Hess Microgen LLC ("Hess")  
Hawaii Renewable Energy Alliance ("HREA")

Sincerely,

Attachment

cc: Division of Consumer Advocacy (3)  
A. Miyamoto  
C. Y. Young, Esq.  
W. S. Bollmeier II  
R. Reed  
S. Y. H. Wong, Esq.  
M. de'Marsi  
G. Sato

A. M. Oshima, Esq. (2)  
B. T. Moto, Esq.  
K. K. Kobayashi  
J. Crouch  
H. Q. Curtis (3)  
C. S. Coleman, Esq.  
L. D. H. Nakazawa, Esq.

\* HECO/HELCO/MECO does not have SIRs for the Kauai Island Utility Cooperative, County of Kauai and Life of the Land.

HECO/HELCO/MECO  
Direct Testimony (“DT”) Supplemental Information Requests (“SIRs”) to the Consumer  
Advocate (“CA”)

HECO/CA-DT-SIR-1 Ref: CA Response to HECO/CA-DT-IR-1

- a. Please provide a complete list of the rate components that would be part of an unbundled rate.
- b. From the CA’s response, it is HECO’s understanding that the CA’s primary reason for unbundling rates is to avoid the utility’s losing all revenues associated with lost kWh sales due to the installation of non-utility customer sited DG. Does the CA agree that this is of significant concern when considering implementation of DG in Hawaii?
- c. Please describe how the CA will address inter-class subsidies in its unbundled rate proposal.
- d. Under the CA’s unbundled rate proposal, on what basis would unbundled rates be determined (i.e., would rates be unbundled based on utility avoided costs, embedded costs, short-run marginal costs or long-run marginal costs)? Please fully explain your response.
- e. Under the CA’s unbundled rate proposal, if a DG customer paying the unbundled rate subsequently elects to go off-grid and the utility is not able to charge said DG customer the unbundled rate to receive compensation on and of the plant facilities that were initially constructed to serve said DG customer, does the CA propose that a service termination charge be imposed on said DG customer?

HECO/CA-DT-SIR-2 Ref: CA Response to HECO/CA-DT-IR-2

- a. Does the CA agree that there is an economic benefit to the utility and all of its customers from a CHP host’s provision of a site for a utility generating unit? Please fully explain your response.
- b. Does the CA agree that a CHP host’s provision of a site for a utility generating unit facilitates the implementation of DG on the utility’s system, which can ultimately benefit the utility and all of its customers? Please fully explain your response.
- c. Does the CA agree that it is reasonable to consider there may be differences between utility and non-utility DG in terms of unit reliability, dispatchability, maintenance practices, and other factors, and that ultimately a non-utility DG installation may provide less benefit to the overall utility system because of these differences?
- d. If the response to subpart c. above is yes, does the CA agree that it is reasonable to account for this difference in system value via some “difference in treatment” of a customer with a utility-owned CHP system from a customer with a non-utility owned system?

HECO/CA-DT-SIR-3 Ref: CA Response to HECO/CA-DT-IR-5

Does the CA agree that the use of preferred supplier agreements will reduce the cost of equipment and services to the utility and reduce the administrative burden of seeking equipment bids for each and every utility CHP project? Please fully explain your response.

HECO/CA-DT-SIR-4 Ref: CA Response to HECO/CA-DT-IR-6

- a. Does the CA agree that if a customer specifically desires the utility to own and operate a DG or CHP system at its site, and does not want a non-utility system, then the utility should be allowed to directly develop the project?
- b. To what degree of specificity should the IRP process identify desired DG resources, especially customer-sited systems?
- c. How practical is it to rely on the IRP process to govern customer-sited DG?

HECO/CA-DT-SIR-5 Ref: CA Response to HECO/CA-DT-IR-11

- a. For each utility provided in the IR response, please describe how their respective IRPs identified and addressed customer-sited DG or CHP, and how this information was used in actual implementation of projects at the customer sites.
- b. If customer-sited DG or CHP was not specifically addressed in the respective IRPs, and DG was integrated into IRP more generically or on the basis of being sited at utility sites, please identify this.
- c. For each utility provided in the IR response, has the inclusion of DG resulted in deferred central station capacity and/or transmission facilities?
- d. For each utility provided in the IR response, please provide the MW size of the utility's service territory and the number of distributed generators installed to date and their size in MW and the number of future distributed generators included in the utility's IRP plan and their size in MW.
- e. For each utility provided in the IR response, please provide an internet address or name of a contact, including a phone number and address, in order to obtain a copy of the section of the utility's IRP plan that addressed DG.

HECO/CA-DT-SIR-6 Ref: CA Response to HECO/CA-DT-IR-9

Please define or explain the definition of "external costs". Please provide examples of the types of external costs that should be considered.

HECO/HELCO/MECO  
Direct Testimony (“DT”) Supplemental Information Requests (“SIRs”) to the County of  
Maui (“Maui”)

HECO/Maui-DT-SIR-1 Ref: Maui response to HECO/Maui-DT-IR-1

- a. What is the date of the case study provided?
- b. Who was the case study prepared for?
- c. Please provide background information on ENCORP, Inc., including an internet address, if available.
- d. It is not clear from the case study that a virtual power plant concept has actually been implemented and is still functioning. What is the current status of the program at Public Service of New Mexico?
- e. Please provide a copy of Public Service of New Mexico’s tariff outlining the terms and conditions, and rates associated with the operation of their “virtual power plant”.
- f. Are there any other electric utilities that “aggregate networks of customer-sited generators together into “virtual power plants” to provide grid reliability services”?
- g. For the utilities identified in subpart f. above, please provide a copy of the tariff outlining the terms and conditions and rates associated with the operation of their “virtual power plant”.
- h. What is your understanding of the current availability and use of interruptible rates in Hawaii?

HECO/Maui-DT-SIR-2 Ref: Maui response to HECO/Maui-DT-IR-4

Is it the County of Maui’s position that the only land requirements for wind systems are relative to the “footprint” area of the turbines? Please fully explain your response.

HECO/Maui-DT-SIR-3 Ref: Maui response to HECO/Maui-DT-IR-5

Why are there no geothermal heat pump systems currently being used in Hawaii? Please fully explain your response.

HECO/Maui-DT-SIR-4 Ref: Maui response to HECO/Maui-DT-IR-9 subpart c.

Does the County of Maui consider the Puunene and H-Power facilities as DG? What are the smallest sizes of such facilities that are practical, feasible, and viable, such that they might be deployed as DG?

HECO/Maui-DT-SIR-5 Ref: Maui response to HECO/Maui-DT-IR-9 subpart d.

For each of the on-site renewable systems discussed in this IR, please provide a cost breakdown for an actual installation, preferably in Hawaii. The cost breakdown should include costs for equipment, land, permitting, line extensions, and operations and maintenance.

HECO/Maui-DT-SIR-6 Ref: Maui response to HECO/Maui-DT-IR-21

Please provide a cost estimate for the required equipment, along with the workpapers supporting the estimate.

HECO/Maui-DT-SIR-7 Ref: Maui response to HECO/Maui-DT-IR-25

Please confirm that the witness is unaware of any electric utilities that have implemented “full cost” generation impact fees.

HECO/Maui-DT-SIR-8 Ref: Maui response to HECO/Maui-DT-IR-30

Are there any other alternatives besides inverting rates to make solar photovoltaic and solar water heat resources cost effective? If yes, please identify the other alternatives and fully explain your response.

HECO/Maui-DT-SIR-9 Ref: Maui response to HECO/Maui-DT-IR-32, subpart a.

Is the County aware of any electric utilities that provide preferential treatment to the County or municipal agencies as to provide wheeling service only to these customers? If the answer is yes, please identify the utilities and the County or municipal agencies that they provide wheeling services to.

HECO/Maui-DT-SIR-10 Ref: Maui response to HECO/Maui-DT-IR-33

The response is based on the assumption that the utility is not allowed to invest directly in DG. If utility support of DG is encouraged by allowing the utility to invest in and offer DG services to customers, to what extent would an alternative form of regulation be required? Please fully explain your response.

HECO/Maui-DT-SIR-11 Ref: Maui response to HECO/Maui-DT-IR-34

Please confirm whether or not the County of Maui has had any discussions with owners of emergency generators to determine the level of their interest in allowing the utility to control the operation of their generators as a utility resource serving all customers. If any discussions have been had, please identify the customer (and the name and title of the customer’s representative spoken to), the dates of the discussions, the substance of the discussion, the customer’s response, and copies of all related correspondence.

HECO/Maui-DT-SIR-12 Ref: Maui response to HECO/Maui-DT-IR-36, subpart a.

- a. Does the County agree that the installation of DG is more complex in terms of technical design, permitting, economics, and operations and maintenance than installing efficient household appliances? Please fully explain your response.
- b. What would be the basis for the utility to provide quality information concerning the complex, site-specific technical and economic issues of a DG installation at a customer’s site, if the DG is being developed by a third party? Please fully explain your response.

HECO/Maui-DT-SIR-13 Ref: Maui response to HECO/Maui-DT-IR-37, subpart b.

- a. How does the County define “ancillary”?
- b. Would a dedicated substation also be considered “ancillary”?

HECO/Maui-DT-SIR-14 Ref: Maui response to HECO/Maui-DT-IR-12, subpart b.

- a. Under the County of Maui’s envisioned “virtual power plant program” concept, is the owner of an on-site emergency generator permitted to preempt dispatch of the

generator by the utility in order to use the generator for its intended on-site emergency back-up source of electricity for the customer's facility?

- b. If the answer to subpart a. above is yes, then how does the "virtual power plant program" concept provide the utility with a firm capacity resource that it can utilize in its integrated resource planning process to provide electricity for all customers on the utility system?

HECO/Maui-DT-SIR-15 Ref: Maui Response to HECO/Maui-DT-IR-19, subpart a.

- a. Please provide a list of all U.S. utilities that have "distribution connection charges measured on an amp, panel size, or transformer kW basis".
- b. Please provide a copy of the "distribution connection charge" tariff of each utility listed in subpart a. above.

HECO/Maui-DT-SIR-16 Ref: Maui Response to HECO/Maui-DT-IR-23, subpart b.  
Please explain the differences between the impact of a "new customer's load" and the impact of an existing customer's load growth on "local distribution issues".

HECO/Maui-DT-SIR-17 Ref: Maui Response to HECO/Maui-DT-IR-23, subpart e.  
Please explain how and what the impact of the County of Maui's proposed generation impact fee will be on "customers with expanding load" and on "new customers"?

HECO/Maui-DT-SIR-18 Ref: Maui Response to HECO/Maui-DT-IR-25 and HECO/Maui-DT-IR-3

- a. Does the County of Maui plan to survey utilities on their generation impact fees?
- b. If the response to subpart a. above is yes, when would the results of such survey be available.

HECO/Maui-DT-SIR-19 Ref: Maui Response to HECO/Maui-DT-IR-4

Information on land requirements (in acres per megawatt) for various renewable DG systems were not provided. In addition, the website link provided did not yield the desired information.

Please provide estimates of the land requirements for renewable DG systems (e.g., wind, solar, and biomass) in units of acres per megawatt.

HECO/Maui-DT-SIR-20 Ref: Maui Response to HECO/Maui-DT-IR-8, subpart b.

The County of Maui indicated that capacity credit for wind energy systems can be based on findings of loss of load probability (LOLP) studies. In addition, the County of Maui stated that "... even a system that provides zero benefit during the "peak period" may deserve a capacity credit".

- a. How does the LOLP-based capacity credit described in HECO/Maui-DT-IR-8 equate to a firm capacity amount that the electric utility could rely upon to fulfill its long-term obligations to provide firm power to its customers?
- b. Does the County of Maui believe that a Hawaii electric utility should rely on a firm capacity amount for intermittent as-available energy generators based on the LOLP capacity credit methodology to defer the construction of new capacity?

- c. Please elaborate on the County of Maui's rationale that a wind energy generator, whose output depends on the strength and availability of the wind resource, should qualify for capacity payments despite not being able to provide power during peak periods upon demand.

HECO/Maui-DT-SIR-21 Ref: Maui Response to HECO/Maui-DT-IR-12, subpart a.  
Please describe the equipment, software, and communication requirements of the "virtual power plant program" evaluated by the County of Maui.

HECO/Maui-DT-SIR-22 Ref: Maui Response to HECO/Maui-DT-IR-12, subpart b.  
Please explain any run time limitations by the State of Hawaii Department of Health on the use of diesel standby generators for non-emergency uses.

HECO/Maui-DT-SIR-23 Ref: Maui Response to HECO/Maui-DT-IR-16, subpart b.  
Please fully explain what types and sizes of DG systems the County of Maui believes are not addressed in Rule 14.H.

HECO/Maui-DT-SIR-24 Ref: Maui Response to HECO/Maui-DT-IR-19

- a. Please provide any proposed legislation being considered by the County of Maui regarding the mandating of solar water heating for new construction and what the County of Maui's position is on this legislation.
- b. If the County of Maui's position is the use of utility hookup fees rather than any proposed legislation stated in subpart a. above, please provide any analysis used to support this position.

HECO/Maui-DT-SIR-25 Ref: Maui Response to HECO/Maui-DT-IR-34

Has the County of Maui had any discussions with hospitals, hotels and other owners of emergency generators to determine the level of interest in allowing the utility to operate their emergency generators to be used as a utility resource which could include frequent and long duration use of these generators?

HECO/HELCO/MECO

Direct Testimony (“DT”) Supplemental Information Requests (“SIRs”) to Hess Microgen LLC (“Hess”)

HECO/Hess-DT-SIR-1 Ref: Hess Response to HECO/Hess-DT-IR-4, subpart a.

Does Hess own and operate any CHP installations in the Southern California Edison service territory that required an interconnection application pursuant to SCE’s Rule 21? If so, please provide a copy of a complete application for interconnection for such an installation.

HECO/Hess-DT-SIR-2 Ref: Hess Response to HECO/Hess-DT-IR-4, subpart d.

In its response, Hess stated “Hess is unsure of the relevance to the interconnect process as the 10MW number is reflected nationally in IEEE 1547 and could apply to significantly smaller “Co-Op” utilities.”

- a. Please provide a list of Hess’ experience with smaller “Co-Op” utilities which are utilizing the IEEE 1547 standard or a standardized interconnection process. Please provide a copy of the standardized interconnection process of the smaller “Co-Op” utilities.
- b. Do these smaller “Co-Op” utilities control both generation and transmission facilities?
- c. Are these smaller “Co-Op” utilities interconnected to other larger electrical grids?

HECO/Hess-DT-SIR-3 Ref: Hess Response to HECO/Hess-DT-IR-4 , subpart d.

Hess states that one of the criteria under Rule 21 for Southern California Edison, which a customer must meet to not require supplemental technical review is “the gross generating facility capacity is 10 MW or less”. Please clarify if Hess meant for the stated criteria to read “gross generating facility capacity is 11 kVA or less” as provided in Rule 21.



HECO/HELCO/MECO  
Direct Testimony (“DT”) Supplemental Information Requests (“SIRs”) to Hawaii  
Renewable Energy Alliance (“HREA”)

HECO/HREA-DT-SIR-1 Ref: HREA Response to HECO/HREA-DT-IR-1

Is HREA aware that capacity payments made to third parties are not recovered by the utilities until such time as a rate case is conducted and the amounts are allowed to be incorporated into rates?

HECO/HREA-DT-SIR-2 Ref: HREA Response to HECO/HREA-DT-IR-2

- a. Does HREA take into consideration the degree of financial leveraging of the utilities versus third parties? If yes, please fully explain how HREA takes into consideration the degree of financial leveraging of the utilities versus third parties.
- b. What does HREA understand the utility debt/equity ratio to be?

HECO/HREA-DT-SIR-3 Ref: HREA Response to HECO/HREA-DT-IR-3, subpart a.  
Please explain how the utilities acquire detailed knowledge of a customer’s energy usage beyond the meter, including electricity and thermal energy usage.

HECO/HREA-DT-SIR-4 Ref: HREA Response to HECO/HREA-DT-IR-3 subpart b.  
Please describe HREA’s understanding of the scope of services offered by energy services companies.